

Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

**Permit Evaluation
and
Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT**

**for
Chevron Products Company
Facility #A0010**

**Facility Address:
841 Chevron Way
Richmond, CA 94802**

**Mailing Address:
Post Office Box 1272
Richmond, CA 94802**

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the “potential to emit,” as defined by BAAQMD Regulation 2-6-218, of more than 100 tons per year of a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70. The permits must contain all applicable requirements (as defined in 40 CFR § 70.2), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility number that consists of a letter and a 4-digit number. This facility number is also considered to be the identifier for the permit.

B. Facility Description

General Description of an Oil Refinery:

This facility is a typical full-scale oil refinery, which processes crude oils and other feedstocks into refined petroleum products, primarily fuel products such as gasoline and fuel oils. It processes crude oil and distills it, under atmospheric pressure, into its primary components: gases (light ends), gasolines, kerosene and diesels (middle distillates), heavy distillates, and heavy bottoms. The heavy bottoms go on to a vacuum distillation unit to be distilled again, this time under a vacuum, to salvage any light ends or middle distillates that did not get separated under atmospheric pressure; the heaviest bottoms continue on to a coker or an asphalt plant.

Other product components are processed by downstream units to remove less desirable impurities (hydrotreated), cracked (catalytic or hydrocracking), reformed (catalytic reforming), or alkylated (alkylation) to form gasolines and high-octane blending components, or to have sulfur or other impurities removed to make over-the-road diesel (low sulfur) or off-road diesel (higher sulfur). Depending on the process units in a refinery and the crude oil input, an oil refinery can produce a wide range of salable products: many different grades of gasoline and gasoline blend stocks, several grades of diesel, kerosene, jet and aviation fuel, fuel oil, bunker fuels, waxes, solvents, sulfur, coke, asphalt, or chemical plant feedstocks.

A more detailed description of petroleum refinery processes and the resulting air emissions may be found in Chapter 5 of EPA's publication AP-42, Compilation of Air Pollutant Emission Factors. This document may be found at:

<http://www.epa.gov/ttn/chief/ap42/ch05/>

The principal sources of air emissions from the Chevron Products Company refinery are:

- Combustion units (furnaces, boilers, and cogeneration facilities)
- FCC (Fluidized Catalytic Cracking)
- Storage tanks
- Fugitive emissions from pipe fittings, pumps, and compressors
- Sulfur plants
- Wastewater treatment facilities

Combustion unit emissions are generally controlled through the use of burner technology, steam injection (turbines), or selective catalytic reduction. Emissions from the FCCU are controlled through hydrotreating the feed, the use of catalysts to remove impurities, the use of improved catalyst regeneration, CO boilers, and electrostatic precipitators. Storage tank emissions are controlled through the use of add on control and or fitting loss control. Fugitive emissions have been minimized per Regulation 8-18 through the use of inspection and maintenance frequencies. Sulfur plants are equipped with tail gas units to reduce emissions. Wastewater treatment facilities are controlled by covering units, gasketing covers, and add on controls such as, carbon canisters.

The Chevron Richmond Refinery:

On July 3, 1902, the Richmond Refinery began operations. At that time, it was by far the largest refining plant on the Pacific Coast and one of the largest in the world. Over the decades, the Richmond Refinery has steadily expanded. Today, this refinery produces primarily gasoline, jet and diesel fuels, and lubricants.

The refinery receives about 240,000 barrels of oil every day. All crude processed at the Richmond Refinery arrives by tanker. The Long Wharf consists of berths for four tankers and 2 barges. Ships dock at the Wharf and unload their cargo into storage tanks via pipes. The Wharf is equipped with a marine vapor recovery unit capable of achieving 95% reduction of hydrocarbons as the ships are loaded. The refinery has hundreds of storage tanks for crude oil and refined products. The largest tanks on the property can hold 750,000 barrels.

The processing of crude consists of four basic steps: distillation, extraction, conversion, and treating. The refinery has three main processing areas: Distillation & Reforming, Cracking, and Hydroprocessing.

In the Distillation & Reforming Area, there is a single large two-stage crude unit that starts the separation of the crude into light (gas), medium (jet and diesel) and heavy (gas oils) components. It takes the residuum (the bottom of the crude unit) and sends it to the Solvent Deasphalting

Plant in the Hydroprocessing Area. Gas oil is extracted from the residuum oil and mixed with a solvent that draws the gas oil away leaving only tar behind. The solvent is then distilled from the gas oil and recycled. The extracted gas oil becomes feedstock for the fluidized catalytic cracking unit (FCCU).

The Richmond Refinery converts gas oil into gasoline, jet and diesel fuels, and lubricating oil, using a series of processing plants. Most of the oil is treated with hydrogen to remove contaminants before the conversion processes begin. Heat and catalysts are then used to convert the gas oil to lighter products.

One conversion method is called cracking because it literally splits (cracks) the heavy hydrocarbon molecules into lighter ones. The Richmond Refinery uses two cracking methods: fluid catalytic cracking and hydrocracking. The FCCU located in the Cracking Area uses high temperature catalyst to crack heavy gas oil mostly into gasoline. Lighter gas oil is converted, using a process called hydrocracking, in the Isomax Unit located in the Hydroprocessing Area. Hydrocracking involves mixing gas oil, hydrogen and catalyst under high pressure and high temperature to make both jet fuel and gasoline. They blend most of the products from the FCCU and the Isomax directly into transportation fuels such as gasoline and jet fuel.

While the cracking process breaks most of the gas oil into gasoline and jet fuel, it also breaks off some pieces that are lighter than gasoline. Since Richmond Refinery's primary focus is on making transportation fuels, they recombine lighter components in the Alkylation Unit. This process takes the small molecules and recombines them in the presences of catalyst to convert them into gasoline components.

Much of the gasoline that comes from the Crude Unit or from the cracking units does not have enough octane to burn well in cars. The refinery's Distillation & Reforming Area contains two reformers, where they rearrange and change gasoline to give it the high-octane cars need. The reforming process removes hydrogen from the low-octane gasoline. The hydrogen is recycled for use in the hydrotreating units.

The products from the Crude Unit and the feeds to the conversion units contain some natural impurities, such as sulfur and nitrogen. Using a process called hydrotreating (a milder version of hydrocracking), these impurities can be removed to reduce air pollution when their fuels are used.

In addition to transportation fuels, the Richmond Refinery also makes lubricating oils and waxes. In the refinery's lube oil facility, heavy gas oil from the Crude Unit is converted into several grades of lubricating oil.

The Richmond Refinery also produces wax from crude oil. Food-grade wax, for example is used to make waterproof corrugate (cardboard boxes) for produce, poultry and seafood, paper cups, sandwich bags, and waxed paper.

A final step is the blending of products. Gasoline, for example, is blended from treated components made in several processing units. Over 75 percent of the Richmond Refinery's products are primary transportation fuels: gasoline, jet and diesel. About 15 percent is fuel oil

for ships and power plants. Four percent are lubricating oils for a wide variety of machinery, including cars. The remaining 5 percent is variety of products like propane, aviation gasoline and wax.

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

Condition I.J has been added to clarify that the capacity limits shown in Table II-A are enforceable limits.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in this table but will have an "S" number. An abatement device that is also a source (such as a thermal oxidizer that burns fuel) will have an "A" number.

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Following are explanations of the differences in the equipment list between the time that the facility originally applied for a Title V permit and the permit proposal date:

Devices Removed from Service or Archived since Application was submitted:

The following sources, including exempt sources, that were listed in the permitted source list in Part 3 of the application, have been removed from service and are not addressed in the proposed permit:

S-0280, S-0398, S-0400, S-0912, S-1292, S-1401, S1402, S-1403, S-1406, S-1409, S-1477, S-1506, S-1538, S-1539, S-1543, S-1622, S-1623, S-1634, S-1828, S-1853, S-1854, S-1855, S-1913, S-1914, S-1915, S-1957, S-1994, S-2920, S-3038, S-3050, S-3066, S-3074, S-4190, S-4239, S-4240, S-4241, S-4305, S-4315, S-4344, S-4357, S-4358, S-5141, S-5309, S-5315, S-6000, S-6001, S-6005, S-6006, S-6028, S-6043, S-6044, S-6053.

The following abatement devices, listed in the list of abatement devices, have been removed from service and are not addressed in the proposed permit:

A-6043, A-6044

Devices Permitted Since Application was submitted:

The following sources, NOT listed in the permitted source list in Part 3 of the application because they were not yet permitted, are now permitted and are addressed in the proposed permit.

S-0025, S-0660, S-4349, S-4426, S-4427, S-4428, S-4429, S-4432, S-4433, S-4434, S-4435, S-6015, S-6066

The following abatement devices, NOT listed in the list of abatement devices, because they were not yet permitted, are now permitted and are addressed in the proposed permit.

A-0054, A-0261, A-0262, A-0628, A6039

Devices with Changed Permit Status:

S-3185 lost exemption status due to a stock change that required permitting of this storage tank.

District permit applications not included in this proposed permit

This facility submits a large number of permit applications to the District every year. Review of the following permit applications was not completed in time to include the results in this Title V permits. The BAAQMD believes it is better to issue the Title V permit and have it be in effect rather than delay its issuance due to pending District permit applications. The Title V permit will be revised periodically to incorporate these applications, as permit revisions, following the procedures in Regulation 2, Rule 6, Major Facility Review.

Also, the following sources, were not listed in the permitted source list in Part 3 of the application because they were not yet permitted. These sources have been issued Authorities to Construct, but are not yet in operation and have not been included in the proposed permit.

List of Applications Currently Under Review

Application Number	Project Description
4134	Change of conditions
4150	Change of conditions
4662	Modify Tank #990
4834	Loss of exemption for several diesel engines that lost permit exemption status due to changes in District regulations.
19696	Banking application: Interchangeable Emission Reduction Credits (IERCs)

Corrections to Devices Shown in Application

The following sources, listed in the permitted source list in Part 3 of the application, were listed with incorrect source numbers.

S-4282A and S-4282E were included in the application and were combined into a single source S-4282.

The following abatement devices, listed in the list of abatement devices, were listed with incorrect device numbers.

A-0068 was included in the application and has since been renumbered to A-6039.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound), are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered a significant source pursuant to the definition in BAAQMD Rule 2-6-239.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) listed following the corresponding District Rules. SIP rules are District rules that have been approved by EPA into the California State Implementation Plan. SIP rules are “federally enforceable” and a “Y” (yes) indication will appear in the “Federally Enforceable” column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the “Federally Enforceable” column will have a “Y” for “yes”. If the SIP rule is not the current District rule, the SIP rule or the necessary portions of the SIP rule are cited separately after the District rule. The SIP portions will be federally enforceable; the non-SIP versions will not be federally enforceable, unless EPA has approved them through another program
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District’s or EPA’s websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Complex Applicability Determinations:

Regulation 8, Rule 2, Miscellaneous Operations

The District has determined that the definition of “miscellaneous operation” in Regulation 8-2-201 excludes sources that are in a source category regulated by another rule in Regulation 8, even if they are exempt from the other rule. This is because such sources limited by the terms of the exemption. Thus, for example, a hydrocarbon storage tank that stores liquids with a vapor pressure less than 0.5 psia is exempt from Regulation 8, Rule 5, Storage of Organic Liquids (8-5-117), and is not subject to Regulation 8, Rule 2, Miscellaneous Operations.

The policy justification for this determination is that the District considered appropriate controls for the source category when it adopted the rule governing that category. Part of the consideration includes determination of sources and activities that are not subject to controls.

Tank Clusters Scheme

The facility has hundreds of storage tanks with different characteristics (fixed roof, external floating roof, internal floating roof), storing different materials (varying vapor pressures, toxicity), with different initial dates of operation, and subject to different regulatory requirements (NESHAPS, NSPS). To minimize the size of the Title V permit application and to increase the permit's usefulness as a compliance assurance tool, facility tanks have been grouped into several sub-tables such that each sub-table includes a number of tanks which have a common set of requirements. Specific requirements are triggered by various criteria, which include: tank size, tank construction date, vapor pressure of the tank contents, toxicity of the tank contents, tank roof design (floating roof versus fixed roof) and whether or not the tank is vented to a control device. For example, the fewest requirements apply to tanks which are relatively old and therefore are not subject to the federal New Source Performance Standard (NSPS), and which store low-vapor pressure materials and therefore are not subject to District Regulation 8, Rule 5.. The specific sources included in each cluster are summarized below.

Fixed Roof Tanks Cluster 01a

S-0917, S-0918, S-1821, S-3141, S-3160, S-3161, S-3162, S-3163, S-3164, S-3165, S-3166, S-3167, S-3168, S-3169, S-3170, S-3171, S-3172, S-3179, S-3182, S-3185, S-3186, S-3194, S-3195, S-3215, S-3216, S-5101, S-5103, S-5105, S-5107, S-5108, S-5109, S-5110, S-5112, S-5113, S-5115, S-5117, S-5118, S-5119, S-5121, S-5122, S-5123, S-5125, S-5126, S-5127, S-5128, S-5129, S-5130, S-5131, S-5132, S-5133, S-5134, S-5135, S-5136, S-5137, S-5138, S-5139, S-5140, S-5201, S-5202, S-5203, S-5204, S-5205, S-5206, S-5207, S-5208, S-5209, S-5210, S-5211, S-5212, S-5213, S-5214, S-5215, S-5216, S-5217, S-5218, S-5219, S-5220, S-5221, S-5222, S-5223, S-5224, S-5227, S-5228, S-5229, S-5230, S-5232, S-5233, S-5234, S-5237, S-5240, S-5241, S-5603

Fixed Roof Tanks Cluster 01b

S-0127, S-0131, S-0151, S-0200A, S-0204, S-0223, S-0225, S-0234, S-0290, S-0291, S-0293, S-0319, S-0325, S-0329, S-0397, S-0401, S-0501, S-0518, S-0526, S-0550, S-0551, S-0555, S-0583, S-0585, S-0586, S-0587, S-0588, S-0589, S-0590, S-0591, S-0592, S-0594, S-0595, S-0596, S-0597, S-0900, S-0907, S-0908, S-0910, S-0930, S-0931, S-0934, S-0935, S-0950, S-0957, S-0979, S-0984, S-1052, S-1149, S-1427, S-1455, S-1456, S-1460, S-1461, S-1468, S-1470, S-1492, S-1493, S-1523, S-1546, S-1547, S-1548, S-1636, S-1653, S-1679, S-1681, S-1685, S-1707, S-1708, S-1709, S-1710, S-1711, S-1712, S-1716, S-1723, S-1724, S-1725, S-1728, S-1729, S-1730, S-1731, S-1732, S-1733, S-1736, S-1756, S-1761, S-1762, S-1764, S-1766, S-1950, S-1951, S-1952, S-1989, S-2520, S-2540, S-3008, S-3028, S-3029, S-3125, S-3139, S-3140 (S-3140 also in Table IV.E.3.1 Sulfur Recovery), S-3142, S-3146, S-3148, S-3310

Internal Floating Roof Tanks Cluster 01b:

S-0328, S-1634, S-3147

External Floating Roof Tanks Cluster 01b:

S-1297, S-0955, S-0956, S-1292, S-1506, S-1451, S-1899, S-1428, S-1020, S-3132, S-3127, S-3138

Fixed Roof Tanks Cluster 02

S-0021, S-0660, S-6066

Fixed Roof Tanks Cluster 05

S-0605 (S-0605 also in Table IV.G.1.5 Wastewater Cluster 40b), S-6200, S-6201, S-6202, S-6203, S-6204, S-6205, S-6206, S-6207, S-6208, S-6209, S-6210, S-6211, S-6212, S-6213, S-6214, S-6215, S-6216, S-6217, S-6218, S-6219 (abatement device requirements for S-6200 through S-6219 are provided in Table II-B)

External Floating Roof Tanks Cluster 11

S-0232, S-0297, S-0298, S-0398, S-1292, S-1518, S-1798, S-1799, S-1843, S-1966, S-3074, S-3100

Internal Floating Roof Tank Cluster 12

S-1633

Fixed Roof Tanks Cluster 13

S-1726, S-1727, S-1757, S-1758

External Floating Roof Tanks Cluster 16

S-9302, S-9303

External Floating Roof Tanks Cluster 17

S-3101, S-3102, S-3129

External Floating Roof Tanks Cluster 23

S-0399, S-3180, S-3189, S-3190, S-3191, S-3193, S-3196, S-3197, S-3198, S-3201, S-3202, S-3213, S-3214

Internal Floating Roof Tanks Cluster 24

S-1635, S-1637

Fixed Roof Tanks Cluster 25

S-6220, S-6221, S-6222, S-6223, S-6224, S-6225, S-6226, S-6227, S-6228, S-6229, S-6230, S-6231, S-6232, S-6233, S-6234, S-6235, S-6236, S-6237, S-6238, S-6239, S-3110, S-3111 (S-3110, S-3111 also in Table IV.G.1.5 Wastewater Cluster 40b) (abatement device requirements for S-6220 through S-6239 are provided in Table II-B)

External Floating Roof Tanks Cluster 26

S-0231, S-0634, S-0679, S-0953, S-0954, S-0990, S-0991, S-0992, S-1287, S-1296, S-1444, S-1459, S-1488, S-1489, S-1491, S-1504, S-1514, S-1686, S-1687, S-1688, S-3071, S-3072, S-3073, S-3075, S-3076, S-3103, S-3104, S-3105, S-3106, S-3107, S-3126, S-3128, S-3133, S-3134, S-3144

Internal Floating Roof Tanks Cluster 27

S-1289, S-1645

Wastewater Treatment Units Cluster 10

S-3200, S-3192

Wastewater Process Drains Not Subject to QQQ Cluster 20d

Wastewater Process Drains Cluster 20q

S-4235, S-4282, S-4251, S-4282A, S-4285, S-4291, S-6050, S-4356

Wastewater Separator Cluster 30c

S-4148, S-4413, S-4414

Wastewater Non-ERFT or IFRT Tanks Cluster 40b

S-0605, S-0610, S-3110, S-3111

Wastewater EFRT Tanks Cluster 45e

S-0231, S-0232, S-0399, S-1504, S-3126, S-3127, S-3128, S-3076, S-3144

Wastewater Bioreactor Cluster 50d

S-4393

Wastewater Containers Cluster 60b

S-6250, Bins, Drums, Vacuum Trucks

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

Because the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit only contains elements 2-6-409.10.1 and 2-6-409.10.2.

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance over the past year and has no records of compliance problems at this facility. The compliance report is contained in Appendix A of this permit evaluation and statement of basis.

VI. Permit Conditions

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and as appropriate, revised the conditions for clarity and enforceability. Each permit condition is identified with a unique numerical identifier, up to five digits.

Where necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

All changes to existing permit conditions are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all ‘strike-out’ language will be deleted; all “underline” language will be retained, subject to consideration of comments received.

The existing permit conditions are generally derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). It is also possible for permit conditions to be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The District has reviewed and, where appropriate, revised or added new annual and daily throughput limits on sources so as to help ensure compliance with District rules addressing preconstruction review. The applicability of preconstruction review depends on whether there is a “modified source” as defined in District Rule 2-1-234. Whether there is a modified source depends in part on whether there has been an “increase” in “emission level.” 2-1-234 defines what will be considered an emissions level increase, and takes a somewhat different approach depending on whether a source has previously permitted by the District.

Sources that were modified or constructed since the District began issuing new source review permits will have permits that contain throughput limits, and these limits are reflected in the Title V permit. These limits have previously undergone District review, and are considered to be the legally binding “emission level” for purposes of 2-234.1 and 2-1-234.2. By contrast, for older sources that have never been through preconstruction review (commonly referred to as “grandfathered” sources), an “increase” in “emission level” is addressed in 2-1-234.3. A grandfathered source is not subject to preconstruction review unless its emission level increases above the highest of either: 1) the design capacity of the source, 3) the capacity listed in a permit to operate, or 3) highest capacity demonstrated prior to March 2000. However, if the throughput capacity of a grandfathered source is limited by upstream or downstream equipment (i.e., is “bottlenecked”), then the relaxing of that limitation (“debottlenecking”) is considered a modification.

The District has written throughput limits into the Title V permit for grandfathered sources. As discussed above, these limits are written for the purpose of determining whether an increase in emission levels has occurred. The purpose of these limits is to facilitate implementation of preconstruction review program. If these limits are exceeded, the facility would be expected to report the exceedence, and the District would treat the reported exceedence as presumptively

establishing the occurrence of a modification. The facility would then be expected to apply for a preconstruction permit addressing the modification and the District would consider whether an enforcement action was appropriate.

It is important to note the presumptive nature of throughput limits for grandfathered sources that are created in the Title V permit. These limits are generally based upon the District's review of information provided by the facility regarding the design capacity or highest documented capacity of the grandfathered source. To verify whether these limits reflect the true design, documented, or "bottlenecked" capacity (pursuant to 2-10234.1) of each source is beyond the resource abilities of the District in this Title V process. Moreover, the District cannot be completely confident that the facility has had time or resources necessary to provide the most accurate information available in this regard. Creating throughput limits in the Title V permit for grandfathered sources is not required by either Part 70 or the District's Major Facility Review rules. Despite the lack of such a requirement, and despite the resource and information challenges presented in the Title V process, the District believes that writing presumptive limits for grandfathered sources into the Title V permit will provide a measure of predictability regarding the future applicability of the preconstruction review program, and that this increased predictability is universally beneficial.

It follows from the presumptive nature of these throughput limits for grandfathered sources that exceedence of these limits is not per se a violation of the permit. *Failure to report an exceedence would be a permit violation.* In this sense, the throughput limits function as monitoring levels, and are imposed pursuant to the District's authority to required monitoring that provide a reasonable assurance of compliance. If an exceedence occurs, the facility would have an opportunity to demonstrate that the throughput limit in fact did not reflect the appropriate limit for purposes of 2-1-234.3. If the facility can demonstrate this, no enforcement action would follow, and the permit would be revised at the next opportunity. It also follows that compliance with these limits is not a "safe harbor" for the facility. If evidence clearly shows that a grandfathered source has undergone a "modification" as defined in 2-1-234.3, the District would consider that a preconstruction review-triggering event, notwithstanding compliance with the throughput limit in the Title V permit. In other words, the protection afforded the facility by complying with the throughput limit in the Title V permit is only as strong as the information on which it was based. There is no Title V "permit shield" associated with throughput limits for grandfathered sources, as they are being proposed. A shield may be provided if the District determines with certainty that a particular limit is appropriate for purposes of 2-1-234.3.

Conditions that are obsolete or that have no regulatory basis have been deleted from this permit.

Conditions have also been deleted due to the following:

- Redundancy in record-keeping requirements.
- Redundancy in other conditions, regulations and rules.
- The condition has been superseded by other regulations and rules.
- The equipment has been taken out of service or is exempt.
- The event has already occurred (i.e. initial or start-up source tests).

The regulatory basis has been referenced following each condition. The regulatory basis may be a rule or regulation. The District is also using the following codes for regulatory basis:

- BACT: This code is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This code is used for a condition imposed by the APCO, which limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This code is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This code is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- TRMP: This code is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

Abatement device operating parameter monitoring has been added for each abatement device.

Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

Grandfathered sources: Condition # 18137 was added to all sources without throughput limits. This condition establishes throughput conditions for these previously unlimited sources.

Refinery processes are usually operated in steady state (constant flow and temperature conditions). The process controls react to fluctuations in conditions by adjusting flow rates and fuel use to bring the process back to the desired conditions. Excess emissions are more likely to occur when operating conditions are being changed from one set of values to another. They are most likely to occur when the change is greatest: during startup and shutdown.

The District has imposed a permit condition on all of the refineries, pursuant to the authority granted by BAAQMD Rule 2-1-403, requiring the facility to notify the District no less than three calendar days in advance of any startup or shutdown. This will enable District staff to observe the activity, and respond if appropriate.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements that apply to each source. The summary includes a citation for each monitoring requirement, frequency, and type. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided when no monitoring is proposed due to the size of a source. In all other cases, the column will have "N/A", meaning "Not applicable".

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements. It follows that, although Title V calls for a re-examination of all monitoring, there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate.

A summary of all monitoring is contained in Section VII, Applicable Limits and Compliance Monitoring Requirements, of the permit. The summary includes a citation for each monitoring requirement, frequency, and type. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

<u>NOX Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
none			

NOx Discussion:

Every source at the refinery that is subject to a NOx limit is also subject to NOx monitoring. These monitoring requirements come either from Regulation 9-9, Regulation 9-10, and/or existing permit conditions. For more detailed information on this matter, see Table VII. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

BAAQMD Regulation 9, Rule 9 "Inorganic Gaseous Pollutants: Nitrogen Oxides from Stationary Gas Turbines"

Regulation 9-9-501 requires continuous emission monitoring system (CEM) or "equivalent" verification systems to demonstrate compliance with Regulation 9, Rule 9. Chevron's turbines are equipped with NO_x CEMs.

BAAQMD Regulation 9, Rule 10 "Inorganic Gaseous Pollutants: NO_x and CO from Boilers, Steam Generators and Process heaters in Petroleum Refineries"

Regulation 9-10-502 requires continuous emission monitoring systems (CEMS) or "equivalent" verification systems to demonstrate compliance with Regulation 9, Rule 10. A BAAQMD Policy Memorandum, dated June 23, 2000, outlines in detail emission monitoring requirements for petroleum refinery heaters, furnaces, and boilers that are subject to the rule. Exact monitoring requirements for NO_x are dependent upon emission control devices in use, firing rate, and source test results. The District Policy is contained in Appendix B. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

<u>CO Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
none			

CO Discussion:

Every source at the refinery that is subject to a CO limit is also subject to CO monitoring. These monitoring requirements come either from Regulation 9-10, existing permit conditions, or both. For more detailed information on this matter, see Table VII. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

BAAQMD Regulation 9, Rule 10 “Inorganic Gaseous Pollutants: NO_x and CO from Boilers, Steam Generators and Process heaters in Petroleum Refineries”

Regulation 9-10-502 requires continuous emission monitoring systems (CEMS) or “equivalent” verification systems to demonstrate compliance with Regulation 9, Rule 10. A BAAQMD Policy Memorandum, dated June 23, 2000, outlines in detail, emission monitoring requirements for petroleum refinery heaters, furnaces, and boilers that are subject to the rule. Exact monitoring requirements for CO are dependent upon emission control devices in use, firing rate, and source test results. The District Policy is contained in Appendix B. Sources that are subject to this rule are found in the tables in Section VII Applicable Limits and Compliance Monitoring Requirements of the permit.

<u>SO₂ Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S-4118 (emergency fire water pump), 4119 (emergency fire water pump), 4126 (emergency fire water pump), 4127 (emergency electric generator)	BAAQMD 9-1-304	Sulfur content of liquid fuel ≤ 0.5% by weight	Fuel Certification (Note 1)
Facility	BAAQMD 9-1-301	GLC of 0.5 ppm for 3 min. or 0.25 ppm for 60 min. or 0.05 ppm for 24 hours	Area Monitoring (Note 2)
S-4227, 4228, 4229 (SRU Trains #1, #2, and #3)	BAAQMD 9-1-313.2	95% of H ₂ S in fuel gas is removed and recovered on a refinery wide basis and 95% of H ₂ S in process water streams is removed and recovered on a refinery wide basis and 95% of ammonia in water streams is removed	Annual source test (Note 3)
S-4227, 4228, 4229 (SRU Trains #1, #2, and #3)	BAAQMD Regulation 6-330	0.08 grain/dscf exhaust concentration of SO ₃ and H ₂ SO ₄ , expressed as 100% H ₂ SO ₄	Annual source test (Note 7)
S-4285 (FCC Plant)	BAAQMD 9-1-313.1	Sulfur content of crude oil shall not exceed 0.10% by wt, or	Daily crude sampling, when sulfur plant is down. (Note 4)
	BAAQMD 9-1-313.2	Removal and recovery of 95% of H ₂ S in refinery fuel gas and 95% of H ₂ S in process water streams on a refinery wide basis	Annual Source test for S-4227-9 (Note 3)

<u>SO₂ Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
	SIP 9-1-313.2	95% of H ₂ S in refinery fuel gas is removed and recovered on a refinery wide basis and 95% H ₂ S in process water streams is removed and recovered on a refinery wide basis	Annual Source test for S-4227-9 (Note 3)
	Condition #11066 Item 10b	0.3 wt% S in FCC Reactor Feed	Daily sampling of the total sulfur content of the feed (Note 5)
S-4345 (No. 2 NH ₃ -H ₂ S Plant (WWT)), 4429 (#8 NH ₃ -H ₂ S Plant), 4433 (#3 H ₂ S Plant), 4434 (#4 H ₂ S Plant), 4435 (#5 H ₂ S Plant)	BAAQMD 9-1-313.2	Removal and recovery of 95% of H ₂ S in refinery fuel gas and 95% of H ₂ S in process water streams on a refinery wide basis	Annual Source test for S-4227-9 (Note 3)
All other combustion sources			Note 6

Note 1: Per CAPCOA/ARB/EPA Agreement, certification by fuel supplier for each fuel delivery. California Diesel Fuel shall not exceed a sulfur content of 0.05 %, by weight. Certification may be provided once for each purchase lot, if records are also kept of the purchase lot number of each delivery.

Note 2: All facility combustion sources are subject to the SO₂ emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). Area monitoring to demonstrate compliance with the ground level SO₂ concentration requirements of Regulation 9-1-301 has been required by the APCO (per BAAQMD Regulation 9-1-501). No monitoring is required for BAAQMD regulation 9-1-302 because it only applies when the ground level monitors (GLMs) are not operating, which is infrequent.

Note 3: Sulfur plants (S-1001, S-1002, and S-1003) will require annual source testing to demonstrate compliance with 9-1-313.2. This H₂S and ammonia removal standard is more of a design standard than a performance standard. The entire removal system is designed to achieve the required removal. The District has determined that annual testing will assure compliance by verifying that the system continues to operate as designed. In addition, other monitored parameters (e.g., sulfur plant SO₂ emissions and refinery fuel gas sulfur content, which are continuously monitored) will alert the operator if the system is not functioning properly.

The likelihood of undetected non-compliance is low. The tests required to demonstrate compliance are

cumbersome, expensive, and dangerous (because of the nature of the sources). Direct measurement is not feasible. As a result, compliance must be demonstrated by source test. The cost of more frequent tests is not justified by the incremental improvement in compliance assurance.

Note 4: In the unlikely event that the refinery continues to operate while the sulfur recovery plants are down, daily crude sampling is necessary to demonstrate compliance with Regulation 9-1-313.1.

Note 5: Daily sampling of the total sulfur content of the feed.

Note 6: All facility combustion sources are subject to the SO₂ emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). Area monitoring to demonstrate compliance with the ground level SO₂ concentration requirements of Regulation 9-1-301 has been required by the APCO (per BAAQMD Regulation 9-1-501). No monitoring is required for BAAQMD regulation 9-1-302 because it only applies when the ground level monitors (GLMs) are not operating, which is infrequent.

Note 7: Sulfur plants (S-4227, S-4228, S-4229) will require annual source testing to demonstrate compliance with 6-330. More frequent monitoring is not required, because the system will exceed the standard only under upset conditions. The monitors and alarms that alert the operator to abnormal conditions are adequate to ensure that upsets are detected and corrected. The cost of more frequent tests is not justified by the incremental improvement in compliance assurance.

<u>PM Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S-4073, 4076, 4078, 4172, 4173, 4187, 4191, 6051, 6054, 6055 (Cooling Water Towers)	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	Monthly sampling of total dissolved solids in the feedwater (Note 1)
	BAAQMD 6-310	0.15 grains/dscf	Monthly sampling of total dissolved solids in the feedwater (Note 1)

<u>PM Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S-4118 (emergency fire water pump), 4119 (emergency fire water pump), 4126 (emergency fire water pump), 4127 (emergency electric generator)	BAAQMD 6-303	Ringelmann 2.0	No monitoring (Note 3)
	BAAQMD 6-310	0.15 grains/dscf	No monitoring (Note 4)

<u>PM Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S-4129, 4131, 4132, 4133, 4134, 4135, S-4155, 4330, 4331, 4332, 4333, 4334, 4335, 4336, 4337, 4338, 4339, S-4349, S-4032, 4033, 4038, 4039, 4040, 4041, 4042, 4043, 4044, 4045, 4059, 4060, 4061, 4062, 4068, 4069, 4070, 4071, 4072, 4095, 4152, 4154, 4158, 4159, 4160, 4161, 4162, 4163, 4164, 4165, 4166, 4167, 4168, 4169, 4170, 4171, 4188, 4189, 4046, 4093, 4094, 4107, 4153, 4157, 4192, 4193, 4194, 4402 (Boilers and Process Heaters)	BAAQMD 6-301	Ringelmann 1.0	No monitoring per CAPCOA/ARB/EPA monitoring agreement for gaseous fuel (Note 2)

<u>PM Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
	BAAQMD 6-310	0.15 grains/dscf	No monitoring per CAPCOA/ARB/EPA monitoring agreement for gaseous fuel (Note 2)
	BAAQMD 6-310.3	0.15 grains/dscf @ 6%O ₂	No monitoring per CAPCOA/ARB/EPA monitoring agreement for gaseous fuel (Note 2)
S-4227, 4228, 4229 (SRU Trains #1, #2, and #3)	BAAQMD 6-301	Ringelmann 1.0	Visual inspection (Note 6)
	BAAQMD 6-310	0.15 grains/dscf	Visual inspection
	BAAQMD 6-311	4.10P ^{0.67} lb/hr particulate, where P is process weight rate in ton/hr	Visual inspection
S-4240, 4241, 4415 (Asphalt Tank Truck Loading Racks)	BAAQMD 6-301	Ringelmann 1 for more than 3 minutes in any hour	No monitoring per CAPCOA/ARB/EPA monitoring agreement for gaseous fuel (Note 2)
	BAAQMD 6-310	0.15 grains/dscf	No monitoring per CAPCOA/ARB/EPA monitoring agreement for gaseous fuel (Note 2)
S-4285 (FCC Plant)	BAAQMD 6-302	Opacity limit	Opacity monitor (Note 4)
	40 CFR Subpart J 60.102(a)(2)	30% opacity, except for one 6 minute average opacity reading in 1 hour	Opacity monitor (Note 4)
	BAAQMD 6-310	0.15 grains/dscf	Quarterly source test (Note 5)

<u>PM Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
	BAAQMD 6-311	$4.10P^{0.67}$ lb/hr particulate, where P is process weight rate in ton/hr	Quarterly source test (Note 5)
	40 CFR 60 Subpart J 60.102(a)(1)	1.0 kg of PM per 1000 kg of coke burn off in catalyst generator	Quarterly source test (Note 5)
	Condition #11066 Item #3	92 tpy tsp	Quarterly source test (Note 5)
	Condition #11066 Item #7	21 #/h tsp average of four source tests per calendar year	Quarterly source test (Note 5)
S-4350, 4352 (Gas Turbines)	BAAQMD 6-301	Ringelmann 1.0	Visible inspection (Note 6)
	BAAQMD 6-310	0.15 grains/dscf	Visible inspection (Note 6)
S-4422, 6042, 6043, 6045, 6046, 6047 (Abrasive Blasting)	BAAQMD 6-301	Ringelmann 1.0	Pressure Drop (Note 8)
	BAAQMD 6-310	0.15 grains/dscf	N (Note 5)
S-6010, 6012, 6013, 6015, 6016, 6017, 6019, 6039 (Flares)	BAAQMD 6-301	Ringelmann 1.0	Visual inspection (Note 7)
	BAAQMD 6-310	0.15 grains/dscf	Visual inspection
	BAAQMD 6-311	$4.10P^{0.67}$ lb/hr particulate, where P is process weight rate in ton/hr	Visual inspection

Note 1: Total Dissolved Solid sampling as required by permit conditions, established for the purpose of limiting mass emissions. It is virtually impossible for the cooling towers to exceed visible or grain loading limitations.

Note 2: Gaseous Fuels: BAAQMD Regulation 6-301 limits visible emissions to no darker than 1.0 on the Ringelmann Chart (except for periods or aggregate periods less than 3 minutes in any hour). Visible emissions are normally not associated with

combustion of gaseous fuels, such as natural gas. No monitoring is required for sources that burn gaseous fuels exclusively, per the EPA's June 24, 1999 agreement with CAPCOA and ARB titled "Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP".

Note 3: No monitoring required because these sources will be used for emergencies and reliability testing only.

Note 4: Opacity monitor is required by regulation on S-4285.

Note 5: Quarterly source testing is already required for S-4285 to comply with Permit condition #11066. This source testing shall be used to determine compliance with the mass emission related limits. No additional monitoring was imposed for grain loading for abrasive blasting since all such sources are abated by a baghouse. Particulate emissions are well below the 0.15 gr/dscf standard for such sources.

Note 6: Liquid Fuels: Per CAPCOA/ARB/EPA Agreement, adequate monitoring for combustion of liquid fuels is a visible emissions inspection after every 1 million gallons diesel combusted, to be counted cumulatively over a 5 year period. If a visible emissions inspection documents opacity, a method 9 evaluation shall be completed within 3 working days, or during the next scheduled operating period if the unit ceases firing on diesel fuel within the 3 working day time frame. This frequency was selected by balancing the likelihood of undetected significant non-compliance with the expense of more frequent inspections. The cost of more frequent monitoring is not justified for sources with liquid fuel usage that is infrequent or small. The cost of conducting method 9 evaluations is not justified unless a less formal inspection indicates that the source is emitting smoke.

Note 7: Condition <> is a new requirement for a visual inspection of flares as soon as possible after a release begins. Hourly observation of the flare during operation will ensure that improper flare operation is detected and corrected.

Note 8: differential pressure gauges on baghouses detect either clogged or broken filter bags; a monthly gauge check is required. A properly functioning baghouse (all bags intact) cannot exceed the standard, and the differential pressure gauges allow such malfunctions to be detected.

<u>POC Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S-6051 (MTBE Plant Cooling Tower)	BAAQMD Condition #14596 part 1	POC<23.7 #/day averaged over any consecutive 12 month period	Monthly (Note 1)
	BAAQMD Condition #14596 part 2	TDS<2000 ppm averaged over any consecutive 30-day period	Monthly (Note 1)
S-6054 (#2 Dewax Plant Cooling Water Tower)	BAAQMD Condition #10597 part 1	HC<2.5 #/day averaged over any consecutive 12 month period	Monthly (Note 1)
	BAAQMD Condition #10597 part 2	TDS<1000 ppm averaged over any consecutive 30-day period	Monthly (Note 1)

<u>POC Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S-6055 (Wax Finishing Plant Cooling Water Tower (CWTS))	BAAQMD Condition #10598 part 1	HC<2.5 #/day averaged over any consecutive 12 month period	Monthly (Note 1)
	BAAQMD Condition #10598 part 2	TDS<1000 ppm averaged over any consecutive 30-day period	Monthly (Note 1)
S-4233, 4234, 4235, 4236, 4237, 4250, 4251, 4252, 4253, 4261, 426, 4265, 4282, 4283, 428, 4291, 4292, 4340, 4341, 4342, 4343, 4346, 4348, 4355, 4356, 4400, 6050 (Process Units)	BAAQMD 8-2-301	15 #/day and 300 ppm total carbon on a dry basis	No monitoring (Note 2)
	BAAQMD 8-10-301	Abatement of emissions from process vessel depressurization is required until pressure is reduced to less than 1000 mm Hg	Note 3
S-4285 (FCC Plant)	BAAQMD Condition #11066 part 3	6.1 tpy POC	N (Note 4)
S-4350, 4352 (Gas Turbines)	BAAQMD Condition #1162 part 11	>50% reduction of VOC	N (Note 5)
S-9304 (Gasoline Dispensing Facility)	BAAQMD 8-7-301.10	98% or highest vapor recovery rate specified by CARB	N (Note 6)
S-9304	BAAQMD 8-7-313.1	Fugitives ≤ 0.42 #/1000 gallons dispensed	N
	BAAQMD 8-7-313.2	Spillage ≤ 0.42 #/1000 gallons dispensed	N
	BAAQMD 8-7-313.3	Liquid retain + spitting ≤ 0.42 #/1000 gallons dispensed	N

<u>POC Sources</u>			
S# & Description	Federally Enforceable Limit Citation	Federally Enforceable Limit	Monitoring
S-4315 (Point Orient Wharf), 9321 through 9326 (Marine Loading Berths)	BAAQMD Condition #18137	Throughput limits	Monthly record keeping
Fugitive components	61.242-11(b) & (c)	Vapor recovery systems \geq 95% and combustion devices \geq 95% destruction efficiency or \geq 0.50 seconds and \geq 760C	Temperature monitoring or introduction of stream into combustion zone

Note 1: Sources S-6051, 6054, and 6055 had initial compliance monitoring requirements that expired after demonstrating consistent compliance with permit limits for a one year period. A permit condition requiring monthly monitoring has been added to be consistent with other refinery permits.

Note 2: No monitoring required since a) VOC emissions are relatively insignificant (< 15 lb/day and 300 ppmvd total carbon), and b) the source can only exceed the limit when the process is upset. Thus the absence of upset conditions is a reliable indicator of compliance.

Note 3: Monitoring to be done according to Regulation 8-10, which requires that an approximate hydrocarbon emission estimate be made per event.

Note 4: To demonstrate compliance with this condition, S-4285 was initially source tested and it was demonstrated that the POC emissions from S-4285 track the CO emissions. Because the POC emissions are relatively insignificant, and because POC emissions track CO emissions, and because the CO emissions are continuously monitored by a CEM, no further monitoring are required for POC emissions from this source.

Note 5: S-4350 and S-4352 were required to perform an initial source test in order to demonstrate compliance with the greater than 50% reduction of VOC permit condition. Because the POC emissions are relatively insignificant, and because POC emissions track CO emissions, and because the CO emissions are continuously monitored by a CEM, no further monitoring are required for POC emissions from this source.

Note 6: The GDF S-9304 will not have any additional monitoring since it has only one arm and a low throughput, and therefore has insignificant emissions (< 5 lb/day).

Discussion of Other Pollutants:

HAP: There was no need for additional monitoring of HAPs. All HAP limits contained adequate monitoring requirements. For more information on HAP monitoring see Table VII.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section VI of the permit.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit that identifies and justifies specific federally enforceable regulations and standards which the APCO has confirmed are not applicable to a source or group of sources, or (2) A provision in a major facility review permit that identifies and justifies specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting which are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

Compliance with the applicable requirement contained in the permit automatically results in compliance with any subsumed (= less stringent) requirement.

This facility has the first and second types of permit shield.

Chevron has requested a permit shield from several Regulations.

The following permit shields are allowed:

Table IXA
Permit Shield for Non-applicable Requirements

S-4350 Gas Turbine with Steam Injection cogeneration train 1000 and S-4351 Heat Recovery Steam Generation train 1000 abated by A-70 CO/HC Catalyst and A-72 SCR NOx Reduction Catalyst

S-4352 Gas Turbine with Steam Injection cogeneration train 2000 and S-4352 Heat Recovery Steam Generation train 2000 abated by A-71 CO/HC Catalyst and A-73 SCR NOx Reduction Catalyst

NSPS Part 60 Subpart GG	Standards of Performance for Stationary Gas Turbines (1/27/82)
60.334(a)	Requires CEM Water to fuel monitoring, but does not require Steam to fuel monitoring. The refinery injects steam only.

Table IXA
Permit Shield for Non-applicable Requirements

FUGITIVE COMPONENTS

Citation	Title or Description (Reason not applicable)
NSPS Part 60 Subpart VV	National Emission Standards for Equipment Leaks (Fugitive Emission Sources) (6/6/84)
60.482-7(g)	Allows relief from 60.482.7(a) monitoring if designated as unsafe-to-monitor. BAAQMD Regulation 8-18 does not allow this relief.
60.482-7(h)	Allows relief from 60.482.7(a) monitoring if designated as difficult-to-monitor. BAAQMD Regulation 8-18-206 definition of inaccessible is more stringent. Both 60.482.7(h) and BAAQMD 8-18-401.3 require yearly monitoring for difficult-to-monitor valves.
60.482-9(a)	Repair of technically infeasible equipment may be delayed until next process unit shutdown. Subsumed by BAAQMD 8-18-306.1, which requires repair during the next turnaround or 5 years, whichever is sooner.
60.482-9(e)	Allows delay of repair beyond a process unit shutdown under supply circumstances. BAAQMD Regulation 8-18-306 does not allow this relief.
60.484	Subsumed by BAAQMD Regulation 8-18-308 which requires public noticing.
NESHAPS Part 61 Subpart V	National Emission Standards for Equipment Leaks (Fugitive Emission Sources) (6/6/84)
61.242-7(g)	Allows relief from 61.242.7(a) monitoring if designated as unsafe-to-monitor. BAAQMD Regulation 8-18 does not allow this relief.

Table IXA
Permit Shield for Non-applicable Requirements

FUGITIVE COMPONENTS

Citation	Title or Description (Reason not applicable)
61.242-7(h)	Allows relief from 61.242.7(a) monitoring if designated as difficult-to-monitor. BAAQMD Regulation 8-18-206 definition of inaccessible is more stringent. Both 61.242.7(h) and BAAQMD 8-18-401.3 require yearly monitoring for difficult-to-monitor valves.
61.242-10(a)	Repair of technically infeasible equipment may be delayed until next process unit shutdown. Subsumed by BAAQMD 8-18-306.1, which requires repair during the next turnaround or 5 years, whichever is sooner.
61.242-10(e)	Allows delay of repair beyond a process unit shutdown under supply circumstances. BAAQMD Regulation 8-18-306 does not allow this relief.
61.244	Subsumed by BAAQMD Regulation 8-18-308 which requires public noticing.
BAAQMD Regulation 11-7	Hazardous Pollutants: Benzene (3/6/85)
11-7-401	Weekly visual inspection of pumps is also required by 40 CFR 61.242-2.
11-7-402	Initial report is also required by 40 CFR 61.247 (a).
11-7-403	Semiannual reports are also required by 40 CFR 61.247 (b)-(c).
11-7-501	Monthly monitoring of pumps and valves is also required by 40 CFR 61.242-2(a)(1), (e); 61.242-7(a), (f).
11-7-502	Recordkeeping is also required by 40 CFR 61.246.

Table IXA
Permit Shield for Non-applicable Requirements

S-4315 POINT ORIENT WHARF

S-9321 BERTH #1 LONG WHARF, 4 ARMS

S-9322 BERTH #2 LONG WHARF, 18 RISERS

S-9323 BERTH #3 LONG WHARF, 6 ARMS

S-9324 BERTH #4 LONG WHARF, 5 ARMS

S-9325 BERTH #9 LONG WHARF, 15 RISERS

S-9326 BERTH #11 LONG WHARF, 2 RISERS

S-9322, S-9323, S-9324, S-9325 ABATED BY A-0900 MARINE VAPOR RECOVERY

Citation	Title or Description (Reason not applicable)
NEHAPS Part 63 Subpart R	National Emission Standards for Loading Racks
63.422	No gasoline cargo trucks are loaded at the Richmond Wharf.

Table IXA
Permit Shield for Non-applicable Requirements

S-4315 POINT ORIENT WHARF
S-9321 BERTH #1 LONG WHARF, 4 ARMS
S-9322 BERTH #2 LONG WHARF, 18 RISERS
S-9323 BERTH #3 LONG WHARF, 6 ARMS
S-9324 BERTH #4 LONG WHARF, 5 ARMS
S-9325 BERTH #9 LONG WHARF, 15 RISERS
S-9326 BERTH #11 LONG WHARF, 2 RISERS

S-9322, S-9323, S-9324, S-9325 ABATED BY A-0900 MARINE VAPOR RECOVERY

Citation	Title or Description (Reason not applicable)
63.423	No gasoline storage vessels are located at the Richmond Wharf.
63.424	No gasoline cargo tanks are located at the Richmond Wharf.

Applicable Requirement	Regulation Title or Description of Requirement	Future Effective Date
BAAQMD Reg 8 Rule 5	Organic Compounds - STORAGE OF ORGANIC LIQUIDS SUBSUMED REQUIREMENTS FOR FLOATING-ROOF TANKS	
<u>501</u>	Records: Subsumed into the Refinery MACT recordkeeping requirements.	
NSPS Subpart K	Petroleum Liquids Storage Vessels SUBSUMED REQUIREMENTS FOR EFRTs	
60.112(a)(1)	Standards for Floating Roof Tanks. Subsumed into the BAAQMD 8-5 requirements.	
60.113(a)	Reporting and Recordkeeping for EFRTs. Subsumed into the Refinery MACT requirements.	

Applicable Requirement	Regulation Title or Description of Requirement	Future Effective Date
BAAQMD Reg 8 Rule 5	Organic Compounds - STORAGE OF ORGANIC LIQUIDS SUBSUMED REQUIREMENTS FOR FLOATING-ROOF TANKS	
320.4	Solid sampling or gauging wells. Subsumed into the NSPS Kb requirements as stipulated in the following FR notices: 65 FR 2336 (01/14/00) 65 FR 19891(04/13/00)	

Applicable Requirement	Regulation Title or Description of Requirement	Future Effective Date
320.5	Slotted sampling or gauging wells. Subsumed into the NSPS Kb requirements as stipulated in the following FR notices: 65 FR 2336 (01/14/00) 65 FR 19891(04/13/00)	
501	Records: Subsumed into the Refinery MACT recordkeeping requirements.	
NSPS Subpart Kb	Volatile Organic Liquid Storage Vessels SUBSUMED REQUIREMENTS FOR EFRTs	
60.112b(a)(2)	Standards for External Floating Roof Tanks. Subsumed into the BAAQMD 8-5 requirements, except for the requirements specified in the Federal Register notices cited above.	
60.113b(b)	Inspection and Repair requirements for EFRTs. Inspections subsumed into the BAAQMD 8-5 requirements and repairs subsumed into the Refinery MACT requirements.	
60.115b(b)	Reporting and Recordkeeping for EFRTs. Subsumed into the Refinery MACT requirements.	
60.116b (a)-(c)	Additional Recordkeeping. Subsumed into the Refinery MACT requirements.	

Applicable Requirement	Regulation Title or Description of Requirement	Future Effective Date
BAAQMD Reg 8 Rule 5	Organic Compounds - STORAGE OF ORGANIC LIQUIDS SUBSUMED REQUIREMENTS FOR FLOATING-ROOF TANKS	
320.4	Solid sampling or gauging wells. Subsumed into the NSPS Kb requirements as stipulated in the following FR notices: 65 FR 2336 (01/14/00) 65 FR 19891(04/13/00)	
320.5	Slotted sampling or gauging wells. Subsumed into the NSPS Kb requirements as stipulated in the following FR notices: 65 FR 2336 (01/14/00) 65 FR 19891(04/13/00)	
501	Records: Subsumed into the Refinery MACT recordkeeping requirements.	
NSPS Subpart Kb	Volatile Organic Liquid Storage Vessels SUBSUMED REQUIREMENTS FOR IFRTs	
60.112b(a)(1)	Standards for Internal Floating Roof Tanks. Subsumed into the BAAQMD 8-5 requirements, except for the requirements specified in the Federal Register notices cited above.	
60.113b(a)	Inspection and Repair requirements for IFRTs. Inspections subsumed into the BAAQMD 8-5 requirements and repairs subsumed into the Refinery MACT requirements.	
60.115b(a)	Reporting and Recordkeeping for IFRTs. Subsumed into the Refinery MACT requirements.	
60.116b (a)-(c)	Additional Recordkeeping. Subsumed into the Refinery MACT requirements.	

Applicable Requirement	Regulation Title or Description of Requirement	Future Effective Date
BAAQMD Reg 8 Rule 5	Organic Compounds - STORAGE OF ORGANIC LIQUIDS SUBSUMED REQUIREMENTS FOR FLOATING-ROOF TANKS	
501	Records: Subsumed into the reporting and recordkeeping requirements of Refinery MACT [Section 63.654].	
Refinery MACT	NESHAP for Petroleum Refineries SUBSUMED REQUIREMENTS FOR EFRTs	
63.646 63.119-121	Standards for Storage Vessels. Sections 63.119 through 63.121 are subsumed into the BAAQMD 8-5 requirements, with the exception of paragraphs 63.120(b)(7), (b)(8), and (b)(10)(i).	

Applicable Requirement	Regulation Title or Description of Requirement	Future Effective Date
BAAQMD Reg 8 Rule 5	Organic Compounds - STORAGE OF ORGANIC LIQUIDS SUBSUMED REQUIREMENTS FOR FLOATING-ROOF TANKS	
501	Records: Subsumed into the reporting and recordkeeping requirements of Refinery MACT [Section 63.654].	
Refinery MACT	NESHAP for Petroleum Refineries SUBSUMED REQUIREMENTS FOR IFRTs	
63.646 63.119-121	Standards for Storage Vessels. Sections 63.119 through 63.121 are subsumed into the BAAQMD 8-5 requirements, with the exception of paragraphs 63.120(a)(4) and (a)(7).	

The following permit shields have been granted for the purpose of streamlining:

- 40 CFR 60.482-2(c):
The requirements for pump leaks above 10,000 ppm or dripping liquid: First repair attempt before 5 days and repair before 15 days.
The requirement shall be subsumed by BAAQMD 8-18-303, which requires minimization of leak >500 ppm within 24 hours and repair within 7 days.
The BAAQMD requirement is more stringent.
- 40 CFR 60.482-7(d):
The requirement for valve leaks above 10,000 ppm: First repair attempt before 5 days and repair before 15 days.
The requirement shall be subsumed by BAAQMD 8-18-302, which requires minimization of leak >100 ppm within 24 hours and repair within 7 days.
The BAAQMD requirement is more stringent.
- 40 CFR 60.482-7(g):

Allows relief from 60.482.7(a) monitoring if designated as unsafe-to-monitor.
BAAQMD Regulation 8-18 does not allow this relief.
The BAAQMD requirement is more stringent.

4. 40 CFR 60.482-7(h):
Allows relief from 60.482.7(a) monitoring if designated as difficult-to-monitor.
The BAAQMD Regulation 8-18-206 definition of inaccessible is more stringent. Both 60.482.7(h) and BAAQMD 8-18-401.3 require yearly monitoring for difficult-to-monitor valves.
The BAAQMD requirement is more stringent.
6. 40 CFR 60.482-9(e):
Allows delay of repair beyond a process unit shutdown under supply circumstances.
BAAQMD Regulation 8-18-306 does not allow this relief.
The BAAQMD requirement is more stringent.
7. 40 CFR 60.484
Subsumed by BAAQMD Regulation 8-18-308, which requires public noticing.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

The Compliance and Enforcement Division has prepared an Annual Compliance Report for 2001. This report is a summary of District enforcement activities at the Chevron refinery during the Calendar Year 2001. A copy of the report is attached as Appendix A.

The information contained in the compliance report has been evaluated during the preparation of the Statement of Basis for the proposed Major Facility Review Permit. The main purpose of this evaluation is to identify ongoing or recurring problems that should be subject to a schedule of compliance. No such problems have been identified. A second purpose of this evaluation is to identify activities that require additional monitoring to assure compliance. No such activities have been identified.

18 notices of violation were issued during 2001. Eight of the 18 involved discrete incidents or breakdowns, which were promptly corrected.

The following violations did not involve discrete incidents or breakdowns:

- NOV #9408: A connector leak was not repaired within 7 days due to a work order oversight.
- NOV # 9409: A District inspection detected equipment leaks, which were repaired the same day.
- NOV #10629: An inspection detected a missing gasket, which was replaced.
- NOV #10630: A tank inspection detected an out-of-compliance tank seal, which was adjusted and repaired.
- NOV #10631: An inspection detected a missing gasket, which was replaced.
- NOV #10632: An inspection detected pump seal leaks

Four NOV's (# 9422 and 10633-35) were issued for failure to report instrument malfunctions. Chevron has revised its procedures to avoid future reporting failures.

All affected sources are now in compliance.

As part of the permit application, the owner certified that all equipment was operating in compliance on July 11, 1996.

F. Differences between the Application and the Proposed Permit:

The Title V permit application was originally submitted on July 11, 1996. This version is the basis for constructing the proposed Title V permit. Changes to the permit conditions include the following:

Throughput limits (identified by a basis of Regulation 2-1-234.3) have been added to all sources which previously had no throughput or emission limits. Sources and abatement devices that have been removed from service and/or added are listed in Section II of this Statement of Basis.

There are differences in the equipment list between the time that the facility originally applied for a Title V permit and the permit proposal date. These differences are explained in Section II of the Statement of Basis of this permit.

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APPENDIX A

BAAQMD COMPLIANCE REPORT

APPENDIX B

BAAQMD Policy Memorandum: NO_x, CO, and O₂ Monitoring Compliance with Regulation 9, Rule 10

APPENDIX C

GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority which allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAPCOA

California Air Pollution Control Officers Association

CEQA

California Environmental Quality Act

CFR

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO

Carbon Monoxide

Cumulative Increase

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District regulations.

Federally Enforceable, FE

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

HAP

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

HHV

Higher heating value.

Major Facility

A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MFR

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

MOP

The District's Manual of Procedures.

NAAQS

National Ambient Air Quality Standards

NESHAPS

National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC

Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

NO_x

Oxides of nitrogen.

NSPS

Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR

New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement

A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NO_x, PM₁₀, and SO₂.

Phase II Acid Rain Facility

A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC

Precursor Organic Compounds

PM

Particulate Matter

PM₁₀

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

SIP

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO₂

Sulfur dioxide

THC

Total Hydrocarbons (NMHC + Methane)

Title V

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC

Total Organic Compounds (NMOC + Methane, Same as THC)

TPH

Total Petroleum Hydrocarbons

TRMP

Toxic Risk Management Plan

TSP

Total Suspended Particulate

VOC

Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m ²	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year